Patients with Prosthetic Joint Infections Receiving Outpatient Parenteral Antimicrobial Therapy: Characteristics and Readmission Rates

Sara Gore, MD1, Fizza Gillani, PhD2, Erika D’Agata, MD, MPH2, Jennifer Adelson Mitty, MD, MPH2, Curt Beckwith, MD2

1Division of Infectious Diseases, Oregon Health & Sciences University, Portland, OR; 2Division of Infectious Diseases, Rhode Island Hospital, Alpert Medical School/Brown University, Providence, RI

Introduction

- OPAT has emerged as a safe, effective, and cost-conscious method of treating patients with IV antimicrobial therapy outside of the hospital setting.
- Hospital readmission remains a significant concern with published 30-day readmission rates for patients on OPAT ranging from 6 to 40 percent.
- Although a significant proportion of OPAT patients are treated for prosthetic joint infections (PJIs), research on this population is limited.

Objectives

- Determine characteristics associated with 90-day hospital readmission for patients receiving OPAT for PJIs.

Methods

- Performed a retrospective chart review of patients receiving OPAT for hip and knee PJIs, identified through ICD-10 billing codes.
- Inclusion criteria: patients over the age of 18 who were discharged from Rhode Island Hospital and The Miriam Hospital in Providence, Rhode Island between 2015-2017 and had follow-up scheduled at The Miriam Hospital Infectious Disease and Immunology Center.
- Exclusion criteria: patients who had a planned readmission or a readmission unrelated to OPAT within 90 days of discharge.
- The primary outcome of interest was 90-day hospital readmission.
- Statistical analyses were performed using SAS 9.4 (SAS Institute Inc., Cary, NC). Bivariate analysis including Wilcoxon rank sum test and Fisher exact test was used to assess the differences in social and clinical variables between two groups. For analysis, a P value < 0.05 was considered significant.

Results

- 53 patients between 2015-2017 received OPAT for prosthetic hip and knee infections.
- 51% were treated for prosthetic hip infections and 49% for prosthetic knee infections
- 36% were discharged to home and 64% to skilled nursing facilities (SNFs).
- 66% of the patients attended their initial OPAT follow-up appointment. 29% of the patients who were readmitted missed their initial follow-up appointment and 36% of the patients who were not readmitted missed their appointment.
- 26% of all patients were readmitted within 90 days for OPAT-related complications.
- Of those readmitted, 57% were for worsening infections, 21% for adverse drug events, 14% for vascular access complications, and 7% for Clostridium difficile infection.
- None of the baseline patient characteristics were significantly associated with greater readmission risk.
- There were no statistically significant associations for increased risk of readmission. However, there were non-significant trends, including higher readmission rates in patients with recent hospitalizations and patients discharged to SNFs.

Conclusions

- Patients discharged on OPAT for PJIs are at high risk of hospital readmission, with a 90-day readmission rate of 26%.
- The high readmission rate underscores the need to improve transitions of care for OPAT patients, especially for patients who may be at higher risk of readmission, including patients with prior hospitalization and those discharged to SNFs.
- Additional adequately-powered research studies are indicated to investigate predictors of hospital readmission in patients on OPAT for prosthetic joint infections.

References


Correspondence

Sara Gore, MD
OHSU Infectious Diseases Fellow
gorese@ohsu.edu

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